



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,973	10/24/2001	Thomas Brinz	10191/2064	8723
26646	7590	09/23/2004	EXAMINER	
KENYON & KENYON ONE BROADWAY NEW YORK, NY 10004			JAGAN, MIRELLYS	
			ART UNIT	PAPER NUMBER
			2859	

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/032,973	Applicant(s) BRINZ, THOMAS	
	Examiner Mirellys Jagan	Art Unit 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 16-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-10, 13, 14, 16-18 and 20-26 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 11, 12 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the detection unit and analyzer unit claimed in claims 11 and 12 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 21 is objected to because of the following informalities: There is lack of antecedent basis in the claim for “the electric contacting”. Claim 21 should be dependent on claim 10. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 8-10, 13, 14, 16-18, and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,984,524 to Teshirogi et al [hereinafter Teshirogi] in view of Japanese Patent 03211449 to Fujita.

Teshirogi discloses a device for testing a semiconductor material (2) on a substrate (37) wherein the material changes shape when heated, the device comprising:

a heat generator (32) for heating the material to produce a change in shape of the material;

a thermal sensor (38) for detecting a change in temperature of the material, wherein the thermal sensor can be a non-optical temperature sensor or an optical temperature sensor such as a radiation detector, which has a local resolution (field of view);

a measurement unit for measuring the change in shape of the material after heating, wherein the measurement unit may be a laser optical system;

Art Unit: 2859

metal electrical contacts arranged on the material;

an arrangement that controls the temperature of the substrate, wherein the arrangement includes at least one of a climate chamber, a heating device, and a cooling device; and

an imaging unit for obtaining an image of the entire material, wherein the imaging unit includes a camera unit, wherein an analyzer unit is configured to determine the change in shape of the material based on the image from the camera unit.

wherein the material includes a ceramic or plastic material (piezoactive since it changes shape when an electric field is applied), and the substrate is made of a material used for circuit boards (see figures 2B and 4; column 3, lines 1-4, 13-24, and 63-67; and column 4, lines 1-40).

Teshirogi does not disclose the device comprising a generator for generating an electric field and applying the electric field to the material via the electrical contact to produce a change in shape of the material, and at least two additional test areas being arranged on the substrate in a grid pattern.

Fujita discloses a device for testing a material that changes shape when it is heated, the device comprising a generator for generating an electric current and applying the current to the material to heat the material and produce a change in shape of the material, and a measurement unit for measuring the change in shape of the material after the current is applied. The material is a semiconductor material having electrical contacts that are used to receive the current. Fujita teaches that it is useful to test a semiconductor material by applying a current to the semiconductor material in order to determine how the material will change shape when receiving a current during regular use (see figures and abstract).

Art Unit: 2859

Referring to claims 1 and 22, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Teshirogi by adding a generator for applying a current to the material via the contacts, as taught by Fujita, in order to determine how the material will change shape when heated during regular use.

Referring to claims 13 and 14, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Teshirogi and Fujita by placing a plurality of additional materials on the substrate in order to simultaneously test more than one material, and since it has been held that the mere duplication of the essential working parts of a device involves only routine skill in the art. See St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.

5. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teshirogi and Fujita, as applied to claims 1, 3, 4, 5, 8-10, 13, 14, 16-18, and 20-24 above, and further in view of U.S. Patent 5,672,848 to Komorita et al [hereinafter Komorita].

Teshirogi and Fujita disclose a device having all of the limitations of claim 25, as stated above in paragraph 4, except for the material of the substrate being aluminum oxide.

Komorita discloses that printed circuit boards are known to be made of aluminum oxide (see column 1, lines 21-36).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Teshirogi and Fujita by using a substrate made of aluminum oxide since Komorita teaches that printed circuit boards are known to be made of

Art Unit: 2859

aluminum oxide, and Teshirogi and Fujita teach that the material of the substrate should be a similar material as used for a circuit board.

6. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teshirogi and Fujita, as applied to claims 1, 3, 4, 5, 8-10, 13, 14, 16-18, and 20-24 above, and further in view of U.S. Patent 5,196,377 to Wagner et al [hereinafter Wagner].

Teshirogi and Fujita disclose a device having all of the limitations of claim 26, as stated above in paragraph 4, except for the material of the substrate being a platinum doped silicon wafer.

Wagner discloses that circuit boards can be made of a silicon wafer having platinum therein.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Teshirogi and Fujita by using a substrate made of platinum in silicon since Wagner teaches that circuit boards and carriers can be made of platinum and silicon, and Teshirogi and Fujita teach that the material of the substrate should be a similar material as used for a circuit board.

Allowable Subject Matter

7. Claims 6, 7, 11, 12, and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2859

8. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not disclose or suggest the following in combination with the remaining limitations of the claims:

A device for testing a material that changes shape when at least one of a magnetic field and an electric field is applied, the device comprising:

a unit for varying at least one of the magnetic field and electric field (see claim 6);

a unit for periodically varying at least one of the magnetic field and electric field (see claim 7); or

a detection unit for detecting a portion of a heating of the material attributed to an electric current associated with the at least one of the magnetic field and electric field (see claim 11).

Response to Arguments

9. Applicant's arguments with respect to claims 1-14 and 16-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents disclose a system for measuring the temperature of an object by applying a current therethrough:

Japanese Patent 02198347 to Tanabe et al

Japanese Patent 01314957 to Wada

Art Unit: 2859

Japanese Patent 61138152 to Kurumachi et al

Japanese Patent 01282454 to Moriya

The following patents discloses a system for measuring the change in temperature and shape of an object:

U.S. Patent 5,601,364 to Ume

German Patent 4211131 to Trapet et al

Japanese Patent 11153556 to Kawanaka

Japanese Patent 63175756 to Kammido

The following patents discloses a piezoelectric member:

U.S. Patent 5,188,286 to Pence, IV


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mirellys Jagan whose telephone number is 571-272-2247. The examiner can normally be reached on Monday-Friday from 9AM to 4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2859

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ
September 16, 2004


G. BRADLEY BENNETT
PRIMARY EXAMINER
AU 2859

Diego Gutierrez
Supervisory Patent Examiner
Technology Center 2800